REMARKS

Upon entry of this amendment, claims 1-6, 21 and 25 will be amended, and non-elected claims 9-14 will be canceled, with claims 1, 2, 21, and 25 being independent claims. Claims 1-8 and 15-28 will remain pending and under consideration.

Non-elected claims 9-14 are being canceled without prejudice to the filing of the subject matter recited therein in one or more divisional and/or continuation applications.

Entry of this amendment after final rejection is appropriate because non-elected claims 9-14 are being canceled. Moreover, the claims have been amended to address the 35 U.S.C. 112, second paragraph, rejection. Therefore, the present amendment is canceling non-elected subject matter and is reducing issues for appeal.

Reconsideration and allowance of the application are respectfully requested.

RESPONSE TO INDEFINITE REJECTION UNDER 35 U.S.C. 112, SECOND PARAGRAPH

Claims 1-8, 21 and 25 have been rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The rejection asserts that claims 1, 2, 21, and 25 have been amended to specify that the budded baculovirus expresses an intracellular organelle membrane bound protein or a non-receptor protein, selected from a list of proteins, and contends that it is unclear which types of proteins Applicant intends to claim because of the discrepancy between the required type of

protein. Specifically, the rejection asserts that proteins involved in adhesion and proteins involved in antigen presentation are not intracellular organelle membrane bound proteins or non-receptor proteins. The rejection indicates that this rejection also affects claims 3-8.

In response, Applicants have amended claims 1-6, 21, and 25 to more clearly set out the invention. Specifically, Applicants have deleted a protein involved in adhesion and a protein involved in antigen presentation from the claims. Applicants therefore, respectfully submit that the rejection should be withdrawn.

For these reasons, the rejection of claims 1-8 under 35 U.S.C. 112, second paragraph should be withdrawn.

RESPONSE TO REJECTIONS BASED UPON PRIOR ART

Claims 1-8 and 15-28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Grabherr et al. (Biotechniques, 1997; 22(4): 730-735) (hereinafter, "Grabherr"), Possee (Current Opinion in Biotechnology, 1997; 8: 569-572) (hereinafter, "Possee"), and in further view of Nohturfft et al. (PNAS 1999; 96: 11235-11240) (hereinafter, "Nohturfft") and Duncan et al. (Journal of Biological Chemistry 1997; 272(19): 12778-12785) (hereinafter, "Duncan"). The rejection asserts that Duncan teaches that SREBP-2 control the metabolism of cholesterol and are bound to the membrane of ER, and that SREBP-2/Ras fusion protein to identify a cleavage site within the protein. The rejection acknowledges that Duncan does not specifically teach that SREBPs are transported to the Golgi Apparatus. However, the rejection asserts that Nohturfft teaches that SREBPs are present in the membrane of the ER and the Golgi Apparatus. Although

the rejection acknowledges that neither Duncan or Nohturfft teach expressing the SSREBP-2 on the surface of a baculovirus, the rejection asserts that one of ordinary skill in the art at the time the invention was made would have been motivated to express SREBP-2 in a baculovirus system to study the protein.

Moreover, the rejection asserts that one of ordinary skill in the art at the time the invention was made would have been motivated to express SREBP-2 in a baculovirus system to study the protein because of Possee or to screen for ligands that may directly interact with SREBP-2 because of Grabherr. Therefore, the rejection asserts that one of ordinary skill in the art would have had a reasonable expectation of success for expressing and recovering the SREBP-2 protein of Duncan and Nohturfft on the surface of the baculovirus of Grabherr because Duncan teaches studying SREBP-2 by forming a fusion protein and Grabherr teaches that expressing proteins on the surface of a baculovirus requires fusing a protein to the baculovirus major coat protein. Also, the rejection asserts that it would have been obvious to substitute the Ras portion of the fusion protein of Duncan for the baculovirus gp64 protein of Grabherr to express SREBP-2 on the surface of a baculovirus since Possee teaches that any eukaryotic protein can be expressed and displayed on the surface of a baculovirus in light of the teachings of Grabherr.

Prior to addressing the substance of the rejection, Applicants note that the rejection is improper because although the rejection asserts that the claimed invention is obvious in view of the combination of documents, the rejection does not clearly set forth how the documents are being combined. For example, the rejection cites general teachings of the documents without pointing to where it is taught or suggested in the documents how the general teachings are

combined to provide the claimed method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein.

Clarification of the rejection is therefore respectfully requested. In particular, the Examiner is respectfully requested to clarify how the documents are being combined, and where the motivation is present in the combination of documents to arrive at Applicants' invention for a method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein. Moreover, because the rejection is not clearly set forth, the Examiner is requested to withdraw the finality of the Office Action.

Despite the deficiency in the rejection, and in an effort to advance prosecution of the present application, Applicants respectfully traverse the rejection below.

Applicants note the following in regard to the documents cited by the Examiner in the rejection: (1) the Duncan and Nohturfft documents merely discuss the known characteristics of SREBP-2; (2) Grabherr teaches the expression of protein on the baculovirus coat where that protein has been fused to the major coat protein of a baculovirus; and (3) Possee merely reviews Grabherr. Therefore, at most the combination of these documents teaches the expression of an intracellular organelle membrane-bound protein on the coat of a baculovirus if the protein has been fused to the major coat protein of a baculovirus. However, the combined documents do not teach or suggest the claimed method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein.

Duncan and Nohturfft merely discuss the characteristics of SREBP-2. Duncan is directed to sterol-regulated protease which cleaves the amino terminal segments of sterol regulatory

element-binding proteins (SREBPs) from cell membranes to allow the SREBPs to enter the nucleus and stimulate transciption of genes involved in the uptake and synthesis of cholesterol and fatty acids. Similarly, Nohturfft is directed to the proteolytic cleavage of SREBPs by SREBP cleavage-activating protein (SCAP) which faciliates cleavage of SREBPs by Site-1 protease. Nohturfft presents evidence that SCAP activity is blocked in sterol overloaded cells. Neither Duncan nor Nohturfft teach or suggest a method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein.

It appears that in an attempt to overcome the deficiencies of Duncan and Nohturfft, the rejection makes general remarks regarding the disclosures of Grabherr and Possee. However, the rejection does not provide how the general teachings of each of these documents are combined to provide motivation for one of ordinary skill in the art to arrive at Applicants' claimed method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein.

Applicants note that Grabherr is directed to expression of a protein on the baculovirus coat where that protein has been fused to the major coat protein of the baculovirus, Gp64. Possee is a general review of baculovirus expression vector technology, with an emphasis on the baculovirus vectors in Grabherr. Neither Grabherr nor Possee teach or suggest a method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein.

Furthermore, Applicants note that the protein fused to the major coat protein of a baculovirus taught in Grabherr does not possess the same function as that of the non-fused protein. In contrast, the protein obtained by the claimed invention is not fused to another protein so that the protein possesses proper structural protein conformation and function versus the fused

protein of Grabherr. In addition, SREBP is a membrane-bound enzyme-substrate protein and SCAP is a membrane-bound enzyme activator that do not exist in the cell membrane so that it would not have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein.

Therefore, the combination of Grabherr or Possee with Duncan and Nohturfft at most teach the expression of an intracellular organelle membrane-bound protein on the coat of a baculovirus provided the protein has been fused to the major coat protein of a baculovirus. It would not have been obvious to one of skill in the art at the time the invention was made to combine the teachings in these documents to obtain a method of recovering a budded baculovirus expressing an intracellular organelle membrane-bound protein.

As noted above, the present invention is not taught or suggested by any of the prior art cited in the Office Action. For this reason, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-8 and 15-28 under 35 U.S.C. §103(a).

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection of record, and allow all the pending claims.

Allowance of the application is requested, with an early mailing of the Notices of Allowance and Allowability.

If the Examiner has any questions or wish to further discuss this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,
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